

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for reducing ~~the~~ an amount of residual monomer in an aqueous polymer ~~dispersions~~ dispersion, comprising:

~~by aftertreatment treating the aqueous polymer dispersion with an initiator system;~~  
~~which wherein:~~

~~comprises aftertreating the aqueous polymer dispersion with addition of an~~ the initiator system ~~essentially,~~ comprising comprises:

- a) from 0.001 to 5% by weight, based on ~~the~~ a total monomer amount used to prepare the polymer dispersion, of an inorganic salt of persulfuric acid;
- b) from 0.005 to 5% by weight, based on the total monomer amount used to prepare the polymer dispersion, of a methyl ketone; and
- c) optionally, catalytic amounts of ~~a~~ at least one metal ion ~~which that~~ is able to exist in a plurality of valence states; and

the methyl ketone is a compound of the formula  $R^1-C(=O)-CH_3$ , where  $R^1$  is:

an unsubstituted  $C_1$  to  $C_5$  alkyl group;

a  $C_1$  to  $C_5$  alkyl groups substituted with one or more functional groups selected from the group consisting of halogens and alkoxy groups  $-O-R^2$ , where  $R^2$  is an unsubstituted  $C_1$  to  $C_5$  alkyl group; or

an olefinically unsaturated group selected from the group consisting of 1-propenyl, 2-propenyl, isopropenyl, 1-butenyl, 2-butenyl, 3-butenyl, 1-methyl-1-propenyl, 1-methyl-2-propenyl, 2-methyl-1-propenyl, 2-methyl-1-propenyl, 1-pentenyl, 2-pentenyl, 3-pentenyl, 4-pentenyl, 1-methyl-1-butenyl, 1-methyl-2-butenyl, 1-methyl-3-butenyl, 2-methyl-1-butenyl, 2-methyl-2-butenyl, 2-methyl-3-butenyl, 3-methyl-1-butenyl, 3-methyl-2-butenyl, 3-methyl-3-butenyl, 1-ethyl-1-propenyl, 1-ethyl-2-propenyl, 2-ethyl-1-propyl-, 2-ethyl-2-

propenyl, 1,2-dimethyl-1-propenyl, 1,2-dimethyl-2-propenyl, 1,1-dimethyl-1-propenyl and 2,2-dimethyl-1-propenyl groups.

Claim 2 (Cancelled)

Claim 3 (Currently Amended): A method as claimed in claim 1, wherein the inorganic salt of persulfuric acid ~~is~~ comprises at least one member selected from the group consisting of a sodium salt, a potassium salt and/or an ammonium salt.

Claim 4 (Cancelled)

Claim 5 (Currently Amended): A method as claimed in claim 1, wherein treating the aqueous polymer dispersion with the initiator system comprises supplying the inorganic salt of persulfuric acid and the methyl ketone ~~are supplied~~ to the aqueous polymer dispersion ~~during the aftertreatment~~ simultaneously by way of separate feeds.

Claim 6 (Currently Amended): A method as claimed in claim 1, wherein:  
the initiator comprises the at least one metal ion; and  
~~the major amount a majority of the at least one metal ions-ion are~~ is added-supplied to the aqueous polymer dispersion ~~in the aftertreatment~~ prior to supply of the inorganic salt of persulfuric acid and the methyl ketone.

Claim 7 (Currently Amended): A method as claimed in claim 1, wherein:  
the initiator comprises the at least one metal ion; and

~~the total~~the at least one metal ion is present in an amount of ~~metal ions is from 1 to~~  
1000 ppm based on the total monomer amount used to prepare the polymer dispersion.

Claim 8 (Currently Amended): A method as claimed in claim 1, wherein ~~said the~~  
~~metal ions~~ion comprises at least one member selected from the group consisting of ~~are~~ iron  
ions, copper ions, manganese ions, vanadium ions, nickel ions, cobalt ions, titanium ions,  
cerium ions, chromium ions ~~and/or~~ and silver ions.

Claim 9 (Currently Amended): A method as claimed in claim 1, wherein ~~the~~  
~~aftertreatment is conducted~~treating the aqueous polymer dispersion with the initiator system  
comprises treating in the presence of complexing agents.

Claim 10 (Currently Amended): A method as claimed in claim 1, wherein treating the  
aqueous polymer dispersion with an initiator system comprises treating while the aqueous the  
pH of the polymer dispersion during the aftertreatment is ~~>~~has a pH of from -2 and ~~<~~to 10.